

Appl. No. 10/500,256  
Amd. Dated September 5, 2005  
Reply to Office Action Dated May 4, 2005

**Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

**Listing of Claims:**

Please amend the claims as follows without prejudice. No new matter has been added by way of these amendments.

Claims 1-11 (deleted)

12. (Currently amended) A salinity monitoring device for a well including a casing which forms a housing for said device, the device ~~being housed in the casing and~~ comprising an electrical cable having a sheath containing a plurality of conducting wires therein, one end of each wire being connected to an electrode, and the other end of each wire being electrically coupled either to a measurement device or to an electrical current generator, ~~characterized in that~~ wherein the casing forming the housing is formed from an electrically insulating material and includes apertures distributed on the major portion of its length, and ~~in that~~ wherein the spacing between consecutive electrodes is sufficiently large that electrical effect measured thereby are influenced by water surrounding the well beyond the casing.
13. (Previously added) The device of claim 12, wherein the spacing of the electrodes is greater than one meter.
14. (Previously added) The device of claim 12, wherein one end of each wire is connected via a switching system either to the current generator or to the measurement device.
15. (Previously added) The device of claim 13, wherein one end of each wire is connected via a switching system either to the current generator or to the measurement device.

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16. (Previously added) The device of claim 12, wherein the electrodes are secured on the outside of the cable.
17. (Previously added) The device of claim 16, wherein the outside of the cable has a device for measuring the local salinity of water in the well located thereon.
18. (Previously added) The device of claim 17, wherein the device for measuring local salinity comprises electrodes located inside a housing secured to the cable.
19. (Previously added) The device of claim 18, wherein the electrodes for measuring local salinity are secured on the sheath of the cable.
20. (Previously added) The device of claim 18, wherein the electrodes for measuring local salinity are secured to the housing.
21. (Previously added) The device of claim 16, wherein the device for measuring local salinity is secured to the cable by means of rings clamped on the cable, spokes being provided to secure the housing to the ring.